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Homework 9/20

# Activity: How Much Do You Know?

created for you by Ms. Nhotsovbanh

**Directions:** *Simplify the following expressions when* $\boldsymbol{a = -2}$, $\boldsymbol{b = 3}$, *and* $\boldsymbol{c = -8}$.

| | |
|---|---|
| 1. $-ab^3 + c$<br>$-(-2)(3)^3 + (-8)$<br>$2(27) - 8$<br>$54 - 8$<br>$46$<br>$\begin{array}{r} 27 \\ \times 2 \\ \hline 54 \end{array}$ | 2. $\dfrac{-b^2 + 7c}{4a+b}$<br>$\dfrac{-3^2 + 7(-8)}{4(-2)+3}$<br>$\dfrac{-9-56}{-8+3}$<br>$\dfrac{-65}{-5} = 13$ |

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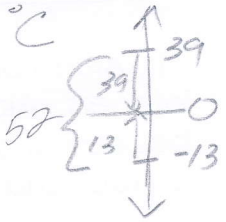
3. Explain the difference between a numerical expression and an algebraic expression. numerical expression has only #s and algebraic expression has #s and variables

4. It was –13°C when Tyler woke up. It is now 39°C. What is the *difference* in temperature?

$39 - (-13) = 52°$

52°C

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5. The hottest temperature ever recorded in Arizona was 135°F. The lowest temperature ever recorded in Colorado was –47°F. What is the *difference* in temperature?

$135° - (-47) = 182°$

6. Logan was just thinking about integers. Complete his thought… If there are an odd number of negative numbers, the product would be negative. Give two examples to *justify* your answer.

$(-2)(-3)(-4)$
$6(-4)$
$-24$

$(-1)(-5)(-2)(-3)(-4)$
$(5)(6)(-4)$
$30(-4)$
$-120$

**Compare** using <, >, or =.

| | |
|---|---|
| 7. $\lvert 8 - 4^2 \rvert$ = $13 + (-5)$<br>$\lvert 8-16 \rvert$<br>$\lvert -8 \rvert$<br>$8$<br>$13-5$<br>$8$ | 8. $-5 + (-3)^2$ < $8 - (-7)$<br>$-5+9$<br>$4$<br>$8+7$<br>$15$ |

9. The opposite 16 is $-16$.

10. Order from least to greatest.

$-12,\ \lvert -8 + 3 \rvert,\ (-2)^2,\ 6,\ -3$

$-5$

$-12, -3, (-2)^2, \lvert -8+3 \rvert, 6$

11. Alana and Dylan were having a discussion about integers. Alana thinks that negative four is not an integer because it is negative. Dylan disagrees with her. Who is correct and why? Dylan b/c negative #s are integers. Integers are neg. & positive whole #s.

**Directions:** Simplify the expressions.

| | |
|---|---|
| 12. $8 - 15 + (-4)^2$<br>$-7+16$<br>$9$ | 16. $(4)(-6) + (-3)(-5)$<br>$-24+15$<br>$-9$ |
| 13. $-14 + 3^2$<br>$-14+9$<br>$-5$ | 17. $24 \div (-12) + (-18)$<br>$-2-18$<br>$-20$ |
| 14. $\lvert -2 + (-9) \rvert - 4(5)$<br>$\lvert -2-9 \rvert - 20$<br>$\lvert 11 \rvert - 20$<br>$11-20$<br>$-9$ | 18. $\dfrac{\lvert -32 \div 4 \rvert}{-8+6} = \dfrac{\lvert -8 \rvert}{-2}$<br>$= \dfrac{8}{-2}$<br>$-4$ |
| 15. $-25 + (-36)$<br>$-25-36$<br>$-61$ | 19. $(3 - 15)^2 - 24$<br>$(-12)^2 - 24$<br>$144-24$<br>$120$ |

20. Given the expression: $12m^4 - 5n^2 + 7p - 3$

There are 4 terms in the expression.
$-3$ is the constant.
7 is the coefficient of the p term.

21. When combining integers with **different signs**, subtract and keep the sign of the number with the larger absolute value.